CHAPTER IX.

Fossils of the Upper Old Red Sandstone much more imperfectly preserved than those of the Lower. — The Causes obvious. — Difference between the two Groups, which first strikes the Observer, a Difference in Size. — The *Holoptychius* a characteristic Ichthyolite of the Formation. — Description of its huge Scales. — Of its Occipital Bones, Fins, Teeth, and General Appearance. — Contemporaries of the *Holoptychius*. — Sponge-like Bodies. — Plates resembling those of the Sturgeon. — Teeth of various Forms, but all evidently the Teeth of Fishes. — Limestone Band, and its probable Origin. — Fossils of the Yellow Sandstone. — The *Pterichthys* of Dura Den. — Member of a Family peculiarly characteristic of the System. — No intervening Formation between the Old Red Sandstone and the Coal Measures. — The *Holoptychius* contemporary for a time with the *Megalichthys*. — The Columns of Tubal Cain.

THE different degrees of entireness in which the geologist finds his organic remains, depend much less on their age than on the nature of the rock in which they occur; and as the arenaceous matrices of the Upper and Middle Old Red Sandstones have been less favorable to the preservation of their peculiar fossils than the calcareous and aluminous matrices of the Lower, we frequently find the older organisms of the system fresh and unbroken, and the more modern existing as mere fragments. A fish thrown into a heap of salt would be found entire after the lapse of many years; a fish thrown into a heap of sand would disappear in a mass of putrefaction in a few weeks; and only the less destructible parts, such as the teeth, the harder bones, and perhaps a few of the scales, would survive. Now, limestone, if I may so speak, is the preserving salt of the geological world; and the con